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UNITED STATES DISTRICT COURT
 NORTHERN DISTRICT OF CALIFORNIA
 SAN JOSE DIVISION

NITRIDE SEMICONDUCTORS CO., LTD.,
 a Japanese corporation,

Plaintiff,

v.

RAYVIO CORPORATION, a Delaware
 corporation,

Defendant.

CASE NO. 5:17-cv-02952-EJD

**PLAINTIFF NITRIDE SEMICONDUCTORS
 CO., LTD.'S OPPOSITION TO DEFENDANT
 RAYVIO CORPORATION'S MOTION FOR
 SUMMARY JUDGMENT OF
 NONINFRINGEMENT OF U.S. PATENT NO.
 6,861,270**

Date: January 17, 2019
 Time: 9:00 a.m.
 Place: San Jose Courthouse,
 Courtroom 4 - 5th Floor
 Judge: Honorable Edward J. Davila

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I. INTRODUCTION

This Court should deny RayVio’s summary judgment motion because there is no basis to disregard the substantial evidence of infringement Nitride Semiconductors (“NS”) has presented.

RayVio begins by arguing that the Court should ignore NS’ substantial evidence of “composition material” (claim 8) and “lattice mismatch” (claim 12) in RayVio’s products because the [REDACTED] NS has identified as meeting these claim limitations is not in [REDACTED], *i.e.*, [REDACTED] Mtn. at 2.¹ In framing this argument, RayVio misrepresents that NS contends the “composition material”/“lattice mismatch” is limited to “[REDACTED].” *Id.* That is not NS’s position. NS’s position is that the [REDACTED] RayVio initially deposits as [REDACTED] and that becomes [REDACTED] in RayVio’s final products satisfies these claim limitations, and NS has adduced substantial evidence of this fact. RayVio’s argument that the [REDACTED] must be in [REDACTED] to meet these claim limitations is doubly unsound.

First, the Court’s claim constructions, which RayVio never mentions, do not require the [REDACTED] to be in any particular form. In its claim construction order, the Court rejected RayVio’s argument that the claims require [REDACTED] to be in [REDACTED] form. The Court explained that, although “the specification also refers to the ‘composition material’ as ‘discrete droplets’ in preferred embodiments,” that is “not how the ‘composition material’ exists in the fully formed device.” Dkt. No. 97 at 16-17. The Court recognized, “at least in some embodiments,” the “composition material” initially deposited in [REDACTED] becomes “sufficiently integrated with the ‘second gallium nitride based semiconductor’ such that it is not separate and distinct.” *Id.* at 16. RayVio’s own expert even concedes the Court’s construction “has no restriction on the form,” and “it would be improper to read any such limitation in” because [REDACTED] Ex. 1 (Piner Rpt.) at ¶ 233.² For this reason alone, the Court should reject RayVio’s non-infringement argument based on requiring [REDACTED] to be in [REDACTED]

¹ “Mtn.” refers to Defendant RayVio Corporation’s Motion for Summary Judgment of Noninfringement of U.S. Patent No. 6,861,270 (the “270 Patent”), filed under seal.

² RayVio used lettered exhibits, and NS has used numbered exhibits.

1 Second, this Court should reject RayVio's argument that the claims require "composition
2 material" to be in [REDACTED] form because RayVio failed to disclose it in response to NS's
3 interrogatory requesting RayVio's non-infringement positions. RayVio's failure to disclose its
4 primary summary judgment argument, which seeks to impose RayVio's claim interpretation that
5 this Court already rejected, highlights the weakness of RayVio's motion.

6 RayVio's next non-infringement argument fails because it is riddled with factual disputes.
7 As demonstrated below, through its expert, Dr. Ferguson, NS has adduced substantial evidence
8 that the accused products have the required "first gallium nitride based semiconductor" (claim 1),
9 "first gallium nitride based semiconductor layer" (claim 8), and "base layer" (claims 5 and 12) "in
10 contact with and above" the substrate, per this Court's construction of "form(ed/ing) on." Dkt.
11 No. 97 at 27. RayVio contends otherwise based solely on its expert's disagreement with Dr.
12 Ferguson. But it is black-letter law that these factual disputes between the experts cannot be
13 resolved on summary judgment. That is the jury's domain. Furthermore, RayVio's factual
14 arguments conflict with the teachings of the '270 Patent.

15 RayVio's third summary judgment argument merely refers to a second summary judgment
16 motion that RayVio untimely filed in violation of this Court's scheduling order and standing order.
17 For these reasons alone, this Court should reject RayVio's argument. NS will respond to the
18 substance of RayVio's second summary judgment motion separately, as is its right. For present
19 purposes, suffice it to say that NS's response will demonstrate that RayVio's second motion is
20 unsound both substantively and procedurally.

21 Saving least for last, RayVio argues that NS' evidence concerning the "spatial fluctuation
22 ... in the band gap" limitation of claims 1, 5, and 12 is legally insufficient because it supposedly
23 "rests solely on a single conclusory sentence in its expert report that refers to [REDACTED]
24 [REDACTED]" Mtn. at 3. RayVio is wrong. The statement RayVio cites is not the only evidence.
25 Rather as demonstrated below, NS has adduced a mountain of evidence on this issue including
26 additional testimony from Dr. Ferguson, results from the testing of RayVio's products, internal
27 RayVio documents concerning this issue, and public documents describing RayVio's
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1 implementation of the '270 Patent. RayVio cannot summarily dismiss this ample evidence as
 2 insufficient. The jury must decide whether it establishes infringement of this claim limitation.

3 The Court therefore should deny RayVio's summary judgment motion in its entirety.

4 **II. LEGAL STANDARDS**

5 **A. Summary Judgment**

6 Summary judgment is appropriate only "if the movant shows that there is no genuine
 7 dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R.
 8 Civ. P. 56(a); *see also Selva & Sons, Inc. v. Nina Footwear, Inc.*, 705 F.2d 1316, 1323 (Fed. Cir.
 9 1983) ("Summary judgment is a drastic remedy."). "[S]ummary judgment will not lie if the dispute
 10 about a material fact is 'genuine,' that is, if the evidence is such that a reasonable jury could return
 11 a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986).
 12 A fact is material if it might affect the outcome of a party's case. *See id.* "[A]t the summary
 13 judgment stage the judge's function is not himself to weigh the evidence and determine the truth
 14 of the matter but to determine whether there is a genuine issue for trial." *Id.* at 249. "The evidence
 15 of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor." *Id.*
 16 at 255.

17 **B. Infringement**

18 "The determination of infringement requires a two-step analysis: (1) a proper construction
 19 of the claim to determine its scope and meaning, and (2) a comparison of the properly construed
 20 claim to the accused device or process." *Conroy v. Reebok Int'l, Ltd.*, 14 F.3d 1570, 1572 (Fed.
 21 Cir. 1994) (vacating summary judgment of non-infringement). "The first is a question of law, to
 22 be determined by the court, construing the letters-patent, and the description of the invention and
 23 specification of claim annexed to them. The second is a question of fact, to be submitted to a
 24 jury.'" *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384 (1996) (quoting *Winans v.*
 25 *Denmead*, 56 U.S. 330, 338 (1853)). "Thus, summary judgment of non-infringement can only be
 26 granted if, after viewing the alleged facts in the light most favorable to the non-movant, there is
 27 no genuine issue whether the accused device is encompassed by the claims." *Pitney Bowes, Inc.*
 28 *v. Hewlett-Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999) (vacating summary judgment of

non-infringement). “In granting summary judgment the court must ensure that there is no reasonable version of material disputed facts whereby the nonmovant could prevail, ... and that the judgment is correct as a matter of law.” *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 807 (Fed. Cir. 1999) (vacating summary judgment of non-infringement).

III. ARGUMENT

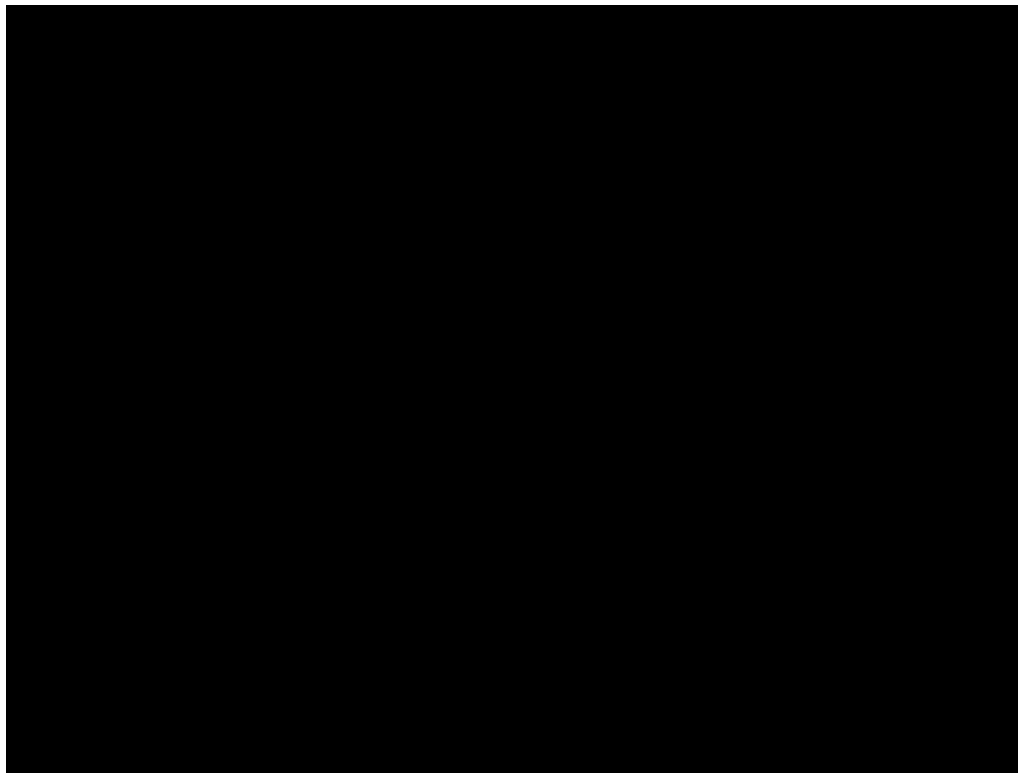
A. Summary Judgment On Claims 8, 9, And 12 Should Be Denied Because NS Has Adduced Substantial Evidence Of Infringement

1. NS’s substantial evidence that the accused products have the claimed “composition material” / “lattice mismatch”

The asserted device claims recite either “composition material” (independent claim 8) or “lattice mismatch” (independent claim 12). NS has adduced substantial evidence that RayVio’s products satisfy these claim limitations because RayVio deposits [REDACTED]—“composition material”/material that forms “lattice mismatch”—that is present in RayVio’s final products. *See* Declaration of Ian Ferguson in Support of NS’ Opposition to RayVio’s Motion for Summary Judgment (“Ferguson Decl.”) ¶ 99 (“The [REDACTED] formed on the [REDACTED] [REDACTED] is the claimed ‘composition material.’ It is also forms [sic] a ‘lattice mismatch’”); *see also id.* ¶¶ 98, 101-104, 119, 122, 146, 154; Ex. 2 (Ferguson Dep.) at 138:21-139:16 (“In RayVio’s product, it’s [REDACTED].”). RayVio deposits this [REDACTED] on [REDACTED]—namely an “[REDACTED]” Ferguson Decl. ¶ 99; *see also id.* ¶¶ 98, 101-104, 119, 122.

More specifically, NS has identified the [REDACTED] in RayVio’s final products using an analytical technique called atom probe tomography (APT). *See* Ferguson Decl. ¶¶ 113-116; Appendices B & C to Declaration of Dieter Isheim in Support of NS’ Opposition to RayVio’s Motion for Summary Judgment (“Isheim Decl.”); Ex. 2 (Ferguson Dep.) at 143:9-24, 158:17-159:10; *see generally* Isheim Decl. For example, the APT image below of a final RayVio product shows [REDACTED]. *See* Ferguson Decl. ¶ 115; *see also* Appendices B & C to Isheim Decl.

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RayVio introduces the [REDACTED] into its products by depositing [REDACTED]
[REDACTED] on the surface. Fittingly, RayVio calls this [REDACTED] operation a [REDACTED]. *See*
Ferguson Decl. ¶ 119 [REDACTED]
[REDACTED] Ex. 2 (Ferguson Dep.) at 126:7-18, 135:4-13, 140:2-141:8, 142:19-143:8 (“Q.
[REDACTED]
[REDACTED]). RayVio then introduces [REDACTED]
[REDACTED], and [REDACTED]
[REDACTED], creating regions having [REDACTED]
See Ferguson Decl. ¶¶ 107-108, 147-148, 155-156; Ex. 2 (Ferguson Dep.) at 144:1-8, 145:4-147:3.
Thus, the [REDACTED] is “found in the final RayVio device” because, after “[REDACTED]
[REDACTED]” as [REDACTED], RayVio “[REDACTED]
[REDACTED]
found in the final RayVio device. Ex. 2 (Ferguson Dep.) at 212:14-24.

As explained further below, this factual evidence is more than sufficient for a jury to
conclude that RayVio’s products meet the “composition material”/“lattice mismatch” limitations
and thus precludes summary judgment that the limitations are not met.

2. RayVio's non-infringement argument is doubly flawed

RayVio ignores all of the foregoing evidence of infringement and urges the Court to disregard it because the [REDACTED] in RayVio's products is not present in [REDACTED], but rather is [REDACTED]. *See* Mtn. at 6 [REDACTED] (emphasis added). This argument fails for two reasons.

First, nothing in the Court's claim constructions of "composition material" or "lattice mismatch" requires the [REDACTED] to be present in the final products in its [REDACTED], i.e., [REDACTED]. Indeed, RayVio does not even acknowledge that this Court construed those terms or mention the Court's constructions in its argument. The Court ruled that "composition material" simply means "material composed of some, but not all, of the elements of the first gallium nitride based semiconductor." Dkt. No. 97 at 27.³ This construction does not impose any limitation of the form of that "material," such as requiring it to be in its as-deposited (or any other) form. Whether [REDACTED] or in [REDACTED], the [REDACTED] in RayVio's products is the claimed "composition material" because it is a "material composed of some, but not all, of the elements of the first gallium nitride based semiconductor," which is composed of the elements [REDACTED]. *Id.*; Ferguson Decl. ¶ 98 ("[REDACTED]"). Because NS has adduced substantial evidence that the [REDACTED] is present in RayVio's products [REDACTED], as set forth above, summary judgment must be denied. *See Rockwell Int'l Corp. v. United States*, 147 F.3d 1358, 1366 (Fed. Cir. 1998) (vacating summary judgment because "on summary judgment, the evidence must be viewed favorably to the nonmovant, with doubts resolved and reasonable inferences drawn in the nonmovant's favor").

RayVio's own expert, Dr. Piner, confirms that RayVio's attempt to impose a requirement that the [REDACTED] "composition material" be in [REDACTED] merely because it is [REDACTED]

³ The Court's construction of "lattice mismatch" in claim 12 likewise does not restrict it to a particular form. *See* Dkt. No. 97 at 28. For simplicity, NS presents its argument in the context of the "composition material" term in the text *infra* because RayVio does not differentiate between the claim terms in its brief.

1 [REDACTED] is specious. Unlike RayVio, Dr. Piner forthrightly admits that the Court's construction
 2 imposes no restriction on form and it would be improper to read in any such restriction: "Under
 3 the Court's construction, [REDACTED]. *The Court's*
 4 *construction has no restriction on the form (e.g., thickness) of the 'composition material' and it*
 5 *would be improper to read any such limitation in.*" Ex. 1 (Piner Rpt.) at ¶ 233 (emphasis added).
 6 As Dr. Piner concisely stated, "[REDACTED]," regardless of its form. *Id.* Rarely does an
 7 expert bite the hand that feeds him, but that is the case here. Furthermore, RayVio's argument that
 8 [REDACTED] remains in [REDACTED] in the final products is nonsensical from a technical perspective.
 9 RayVio admits that [REDACTED] in a device would "kill the device," rendering it "inoperable."
 10 Mtn. at 6 (quoting Ex. A (Ferguson Dep.) at 158:12-15 and Ex. C (Abell Dep.) at 102:19-103:11,
 11 and citing Piner Decl. ¶¶ 18-20, 22-24). RayVio thus concedes that its argument for summary
 12 judgment of non-infringement is premised on rendering the claims inoperable.

13 In reaching its construction of "composition material," the Court rejected the argument
 14 RayVio made at the claim construction stage and improperly seeks to resuscitate here that
 15 "composition material" must remain in its as-deposited form. RayVio had argued that
 16 "composition material" should be limited to [REDACTED] i.e., the "droplets of Ga or Al"
 17 deposited in an exemplary process in the '270 Patent, and that the "composition material" had to
 18 remain a "separate and distinct structure" from the "second gallium nitride based semiconductor"
 19 (i.e., could not become [REDACTED] in the final products). Dkt. No. 72 at
 20 11, 14. The Court rejected RayVio's argument. The Court recognized that in "at least in some
 21 embodiments, the 'composition material' is sufficiently integrated with the 'second gallium nitride
 22 based semiconductor' such that it is not separate and distinct."⁴ Dkt. No. 97 at 16 (quoting Ex. 3
 23 ('270 Patent) at 3:44-51 ("Here, in the regions where Ga droplets are present, the solid phase
 24 composition of gallium *within* the undoped $\text{Al}_x\text{Ga}_{1-x}\text{N}$ layer 16 becomes high, and thus, a spatial
 25 fluctuation is formed in the band gap of the undoped $\text{Al}_x\text{Ga}_{1-x}\text{N}$ layer 16.")) (Court's emphasis)).

26 ⁴ At his deposition, Dr. Piner experienced "confusion" in trying to reconcile RayVio's argument
 27 with the '270 Patent's disclosure. He ultimately conceded that it "would be logical" if—as the
 28 Court recognized in its claim construction order—"all the gallium" in the gallium droplets in this
 embodiment was "incorporated" "into the aluminum gallium nitride" deposited over it and that
 this would, "to a large extent at least" resolve his "confusion." Ex. 4 (Piner Dep.) at 84:17-85:2.

1 The Court further explained that, although the specification refers to depositing “composition
2 material’ as ‘discrete droplets’ in preferred embodiments,” that is “not how the ‘composition
3 material’ exists in the fully formed device.”⁵ Dkt. No. 97 at 16-17.

4 RayVio’s argument that [REDACTED] must be present in [REDACTED] in its products therefore
5 must be rejected as inconsistent with this Court’s constructions, and as an improper attempt to
6 resurrect its failed claim construction argument. *See Apple, Inc. v. Samsung Elecs. Co.*, No. 12-
7 CV-00630-LHK, 2014 WL 252045, at *4 (N.D. Cal. Jan. 21, 2014) (“The local rules and this Court
8 did not set out a particular process for resolving claim construction disputes only to let the parties
9 make additional arguments at the summary judgment phase untethered to those
10 carefully structured rules.”). NS has presented substantial evidence that RayVio follows the ’270
11 Patent closely by [REDACTED] that, as in the Figure 1 embodiment, are
12 [REDACTED] deposited over it, causing [REDACTED]
13 [REDACTED]. *Compare* Section III.A.1. *supra*, with
14 Ex. 3 (’270 Patent) at 3:44-51. Accordingly, the Court should deny summary judgment for this
15 reason alone.

16 Rather than candidly acknowledge that RayVio proposes that the [REDACTED] must be in
17 [REDACTED] RayVio points to Dr. Ferguson’s testimony about the [REDACTED] “composition
18 material” being introduced during RayVio’s process as [REDACTED] to contend that he testified
19 it must remain in [REDACTED].⁶ RayVio is wrong. He never testified that [REDACTED] ceases to meet
20 the “composition material” or “lattice mismatch” limitations when, [REDACTED]
21 [REDACTED]. Ferguson Decl. ¶ 101. To

22 ⁵ Claim 1 relates to a manufacturing method involving “composition material,” while claim 8
23 relates to the manufactured device. In moving for summary judgment on claim 8, RayVio seeks
24 to limit the “composition material” to the [REDACTED] it is initially in during manufacturing,
contrary to the Court’s express recognition that this is “not how the ‘composition material’ exists
in the fully formed device.” Dkt. No. 97 at 17.

25 ⁶ RayVio quotes testimony where Dr. Ferguson was asked whether “[REDACTED]” deposited
26 during RayVio’s “[REDACTED]” step is “composition material,” and he confirmed that it is. Mtn.
at 5 (quoting Ex. A at 135:4-136:3). Similarly, RayVio quotes his testimony identifying the
27 “lattice mismatch layer” as “[REDACTED]” and confirming that it is [REDACTED] as “[REDACTED]
[REDACTED]” Mtn. at 5 (quoting Ex. A at 165:17-166:4). RayVio did not
28 ask Dr. Ferguson whether the [REDACTED] had to [REDACTED] to satisfy the claims; RayVio
did not want to hear the answer.

the contrary, Dr. Ferguson relied on APT analysis showing the “ [REDACTED] composition material” [REDACTED] to opine that RayVio infringes and confirmed at his deposition that the [REDACTED] is “ [REDACTED].” Ferguson Decl. ¶ 113-116; Ex. 2 (Ferguson Dep.) at 212:14-24. Regardless, resolving purported conflicts in testimony is a task for the jury, and summary judgment cannot be sustained based on how RayVio wishes to interpret his testimony. *See Convolve, Inc. v. Compaq Comput. Corp.*, 527 F. App’x 910, 927-28 (Fed. Cir. 2013) (non-precedential) (reversing summary judgment of non-infringement because testimony was ambiguous and Defendant’s view of the testimony was contrary to other testimony offered by Plaintiff).

Second, during discovery, RayVio was required to disclose its contention that it does not infringe because the [REDACTED] “composition material”/“lattice mismatch” is not in [REDACTED] in its products, but RayVio never did so.

In Interrogatory No. 7, NS requested RayVio to “[f]ully describe all factual and legal bases for any contention that RayVio has not infringed.” Ex. 5 (RayVio 5/31/2018 Supp. Resp.) at 6. After the Court rendered its claim construction decision on May 11, 2018 (*see* Dkt. No. 97), RayVio served a final supplemental response to this interrogatory on May 31, 2018. Ex. 5 (RayVio 5/31/2018 Supp. Resp.) at 25. RayVio therefore was able to consider the Court’s constructions. In that supplemental response, RayVio identified every claim limitation of every asserted claim as not being met. But RayVio failed to disclose any non-infringement position based on requiring “composition material” in claim 8 or “lattice mismatch” in claim 12 to be in a [REDACTED] RayVio merely stated each claim limitation was not met without identifying any factual or legal basis for its position. Instead, RayVio simply parroted the words of the claim and the Court’s construction:

[REDACTED]

* * *

[REDACTED]

1 [REDACTED]
 2 [REDACTED]
 3 [REDACTED]
 4 [REDACTED].
 5 *Id.* at 14, 16.

6 These conclusory statements did not so much as hint at RayVio's argument here that
 7 [REDACTED] must be in [REDACTED] to meet the "composition material" and "lattice mismatch" claim
 8 elements. In its interrogatory response, RayVio did not refer to [REDACTED]
 9 [REDACTED]. Having hid
 10 its non-infringement argument during discovery, RayVio waived the right to advance it now and
 11 should be precluded from doing so. *See Thermos Co. v. Starbucks Corp.*, No. 96 C 3833, 1999
 12 WL 203822, at *5 (N.D. Ill. Apr. 6, 1999) (precluding Defendants from raising a non-infringement
 13 defense regarding a temperature claim limitation because "the Defendants could have simply
 14 notified the Plaintiffs of their position that different temperatures were present in the four prior
 15 methods," but "failed to do so").

16 **B. Summary Judgment On Claims 1, 5, 8, and 12 Should Be Denied Because NS**
 17 **Has Adduced Substantial Evidence Of Infringement**

18 **1. NS's substantial evidence that RayVio's products have the claimed "a**
 19 **first gallium nitride based semiconductor [layer]" / "base layer"**
 20 **"formed on" a substrate**

21 NS has presented evidence that RayVio forms "a first gallium nitride based semiconductor"
 22 (independent claim 1) / "first gallium nitride based semiconductor layer" (independent claim 8) /
 23 "base layer" (independent claims 5 and 12) on a substrate. Specifically, Dr. Ferguson explains
 24 that these claim terms are met by a set of sublayers in RayVio's products, where the bottommost
 25 sublayer is in contact with the substrate. *See* Ferguson Decl. ¶¶ 129-130, 137-139, 144-145, 152-
 26 154; Ex. 2 (Ferguson Dep.) at 174:17-177:25; 211:17-23. Dr. Ferguson identified those sublayers
 in the layer diagram copied in RayVio's motion.⁷ *See* Mtn. at 10. NS presents this diagram below

27 ⁷ As Dr. Piner acknowledged, the diagram in RayVio's motion is "upside down," which "is not
 28 how someone in the technical field would normally present" the layers, nor how he would normally
 present them. Ex. 4 (Piner Dep.) at 50:16-51:9. That diagram also omits the substrate, which
 would be at the top.

1 with the substrate included at the bottom for ease of understanding the “red region” with “sublayers
2 [REDACTED] that Dr. Ferguson identified as meeting the claim elements. The “first gallium nitride based
3 semiconductor [layer]”/“base layer” Dr. Ferguson identified is “formed on” the substrate under the
4 Court’s construction because it is “formed in contact with and above” the substrate. Dkt. No. 97
5 at 27; *see also* Ex. Ferguson Decl. ¶ 95.

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26 The foregoing evidence is more than sufficient for a jury to conclude that RayVio’s products have
27 the claimed “first gallium nitride based semiconductor [layer]”/“base layer” “formed on” the
28 substrate, and thus precludes summary judgment of non-infringement.

RayVio takes issue with this evidence by pointing to allegedly countervailing evidence in the record. But as demonstrated below, RayVio's panoply of arguments simply highlights that there are several factual disputes, and thus summary judgment would be improper. *See Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1326-27 (Fed. Cir. 2015) (reversing summary judgment, explaining, "Rather than properly evaluating the evidence in the light most favorable to the nonmoving party, the district court appears to have impermissibly resolved factual disputes in favor of Covidien in order to reach its conclusions."). NS addresses RayVio's arguments on a claim element-by-claim element basis below.

2. The disputed facts regarding whether RayVio "form[s] a first gallium nitride based semiconductor on a substrate" (claim 1)

a. The parties have a factual dispute about the contents of the "first gallium nitride based semiconductor"

RayVio first argues that the claim limitation "forming a first gallium nitride based semiconductor on a substrate" is not met because NS supposedly violates this Court's construction of "form(ing/ed) on" as "form(ing/ed) in contact with and above." Mtn. at 7. RayVio is wrong. As shown by the red-shaded area in the diagram above, NS has presented evidence that RayVio forms "a first gallium nitride based semiconductor" in contact with and above the white substrate at the bottom of the diagram. Ferguson Decl. ¶¶ 129-130, 137-139, 144-145, 152-154. Dr. Ferguson identified this red-shaded area as the "first gallium nitride based semiconductor" and explained his reasons for doing so. *See* Ferguson Decl. ¶¶ 80-97, 129-130, 137-139, 144-145, 152-154; Ex. 2 (Ferguson Dep.) at 116:1-117:7. RayVio's disagreement with the evidence NS has presented through Dr. Ferguson does not permit RayVio to obtain summary judgment. *See Ethicon*, 796 F.3d at 1326-27.

Moreover, the "first gallium nitride based semiconductor" that RayVio forms is in contact with and above the substrate in precisely the same way that the '270 Patent discloses having a semiconductor with multiple sublayers formed on the substrate: the bottommost layer is in contact with the substrate below it. This Court previously recognized that the '270 Patent describes "AlGaN and AlGaN/GaN quantum well superlattices" as being "formed on a sapphire substrate" because the bottommost sublayer of those superlattices is in contact with the substrate below it.

Ex. 3 ('270 Patent) at 1:15-21; *see also id.* Dkt. No. 97 at 11 (recognizing that this phrase “states that the collective whole is formed on a substrate”); Ferguson Decl. ¶ 87. There is no genuine dispute that the bottommost sublayer of the red-shaded “first gallium nitride based semiconductor” identified by NS is in contact with the substrate. Nothing intervenes between that “first gallium nitride based semiconductor” and the substrate, as illustrated in the diagram above.

RayVio’s argument thus reduces to a dispute about what is, or is not, part of the “first gallium nitride based semiconductor.” Does it include the [REDACTED] that rests atop the substrate, as NS maintains, or does it exclude that sublayer, as RayVio contends? That is a paradigmatic factual issue reserved for the jury, and Dr. Ferguson expressly rejects RayVio’s contention that the [REDACTED] should be excluded. *See, e.g.,* Ferguson Decl. ¶ 92 (explaining that “[REDACTED]”); *see also id.* ¶¶ 80-94; Ex. 2 (Ferguson Dep.) at 174:17-177:26 (testifying that “[REDACTED]” that is part of the “first gallium nitride-based semiconductor”). This factual issue thus cannot be resolved against NS on summary judgment. *See Ethicon*, 796 F.3d at 1326-27 (reversing summary judgment of non-infringement, because the patentee offered expert testimony of infringement); *Frolow v. Wilson Sporting Goods Co.*, 710 F.3d 1303, 1311 (Fed. Cir. 2013) (reversing a summary judgment of non-infringement because “[i]t is the job of the fact-finder—not the court at summary judgment—to weigh that evidence [of conflicting expert reports] and render a decision”).

RayVio contends that NS’s arguments during claim construction require making the factual determination on summary judgment that the [REDACTED] is an intervening layer. Apart from its own say-so, RayVio cites no authority for this startling proposition, which contradicts decades of summary judgment jurisprudence. *See id.*; *Anderson*, 477 U.S. at 249 (“[A]t the summary judgment stage the judge’s function is not himself to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial.”). RayVio’s reliance on NS’s claim construction arguments is misplaced. To be sure, NS sought a construction of “form(ing/ed) on” that permitted intervening layers between the “first gallium nitride based semiconductor” and the substrate. Had that construction been adopted, it would have obviated the current factual dispute about whether or not the [REDACTED] is part of the “first gallium nitride

1 based semiconductor” because the “first gallium nitride based semiconductor” would be “formed
 2 on” the substrate even if the [REDACTED] were considered an intervening layer, as RayVio contends. But
 3 in attempting to obviate the dispute, NS in no way conceded that the [REDACTED] in RayVio’s
 4 products was not part of the “first gallium nitride based semiconductor.”

5 The Court did not construe the term “first gallium nitride based semiconductor” because
 6 the parties did not dispute its construction, and now the parties’ dispute over what constitutes the
 7 “first gallium nitride based semiconductor” is “a factual question appropriate for the jury.” *Lazare*
 8 *Kaplan Int’l., Inc. v. Photoscribe Techs., Inc.*, 628 F.3d 1359, 1376 (Fed. Cir. 2010).
 9 Consequently, summary judgment would be improper because the jury will need to determine
 10 whether to credit NS’s substantial evidence that the [REDACTED] in RayVio’s products is properly
 11 considered part of the “first gallium nitride based semiconductor.” *See In re Gabapentin Patent*
 12 *Litig.*, 503 F.3d 1254, 1259 (Fed. Cir. 2007) (reversing summary judgment of non-infringement,
 13 explaining, “[C]omparison of the claim to the accused device, requires a determination that every
 14 claim limitation or its equivalent be found in the accused device. ... Those determinations are
 15 questions of fact, and on summary judgment, the issue is whether there is no genuine issue of
 16 material fact regarding infringement.”).

17 b. RayVio’s varied and dubious factual disputes with NS’s
 18 identification of the “first gallium nitride based semiconductor”

19 RayVio suggests that NS’s identification of [REDACTED] including the [REDACTED],
 20 as comprising the “first gallium nitride based semiconductor” is somehow improper. *See Mtn.* at
 21 9-11. RayVio’s suggestion at best raises a factual dispute. By its plain meaning, the “first gallium
 22 nitride based semiconductor” in claim 1 is not even limited to a “layer,” and further this Court
 23 consistently held a “layer” (as recited in other claim terms) “may be made up of sub-layers.”⁸ Dkt.

24 ⁸ The “ordinary and customary meaning” of “first gallium nitride based semiconductor” applies
 25 because RayVio, which identified all claim terms for construction, did not identify this term for
 26 construction. *Cave Consulting Group, LLC v. Optuminsight, Inc.*, No. 5:11-cv-00469-EJD, 2016
 27 WL 4658979, at *4 (N.D. Cal. Sept. 7, 2016) (“Where, as here, parties did not seek construction
 28 of the terms at issue, courts give those terms their ordinary and customary meaning ... to a person
 of ordinary skill in the art in question at the time of the invention.”) (quoting *Apple, Inc. v. Samsung*
Elects. Co., No. 12-cv-0630-LHK, 2014 WL 660857, at *3 (N.D. Cal. Feb. 20, 2014)), *rev’d in*
part, vacated in part, and remanded on other grounds, 725 F. App’x 988 (Fed. Cir. 2018) (non-
 precedential); Dkt. No. 54 at 2-3.

No. 97 at 27-28. As this Court previously recognized, the '270 Patent expressly contemplates grouping together as many as 20 sublayers of differing composition to form a light-emitting layer. See Ex. 3 ('270 Patent) at 4:50-53 (disclosing a "repetition of n pitches" where "n can be set for example, as 20" of AlGaN and GaN layers); Dkt. No. 97 at 13 (quoting same). RayVio's disagreement with NS's substantial evidence that the "first gallium nitride based semiconductor" is composed of [REDACTED]—a lower number than the 20 sublayers grouped together in the '270 Patent—cannot support summary judgment. See *Ethicon*, 796 F.3d at 1326-27 (reversing summary judgment where the district court "impermissibly resolved factual disputes" against the nonmoving party); *Rockwell*, 147 F.3d at 1366 (Fed. Cir. 1998).

Next, RayVio accuses Dr. Ferguson of "arbitrarily" grouping sublayers in identifying the "first gallium nitride based semiconductor." Mtn. at 10. Dr. Ferguson, however, has explained in detail why it is appropriate to group the [REDACTED] he identified together as a [REDACTED] in the context of the '270 Patent. Ferguson Decl. ¶¶ 80-97. The credibility of Dr. Ferguson's opinion is an issue for the jury to assess at trial. RayVio will have the opportunity to cross-examine Dr. Ferguson, but cannot adjudicate this credibility issue now on summary judgment. See *Anderson*, 477 U.S. at 255 ("Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge, whether he is ruling on a motion for summary judgment or for a directed verdict.").

RayVio also argues that the thickness of the [REDACTED] somehow disqualifies it from being a sublayer of the "first gallium nitride based semiconductor." But no claim of the '270 Patent contains any thickness limitation, and the '270 Patent nowhere discusses any restriction on the thickness of the "first gallium nitride based semiconductor." See generally Ex. 3 ('270 Patent); see also Ferguson Decl. ¶ 91. RayVio's factual contention that the [REDACTED] is too thick will need to be assessed by the jury after, *inter alia*, hearing from both sides' experts and considering the claims and specification of the '270 Patent, which nowhere mention any

1 restriction on the thickness of the “first gallium nitride based semiconductor.”⁹ *See Ethicon*, 796
 2 F.3d at 1326-27; *Rockwell*, 147 F.3d at 1366.

3 In addition, RayVio argues that the [REDACTED] of the [REDACTED] is “such an
 4 important feature” that it should be treated as “separate and distinct” from the “first gallium nitride
 5 based semiconductor.” Mtn. at 12. The relative importance of sublayers, and how that affects the
 6 application of the claims to the accused products, is another paradigmatic example of a factual
 7 issue that cannot be resolved on summary judgment. *See In re Gabapentin Patent Litig.*, 503 F.3d
 8 at 1259. Once again, the jury will have to assess RayVio’s factual argument for according the [REDACTED]
 9 [REDACTED] special treatment. In assessing RayVio’s argument, the jury will be able to consider the
 10 fact that the ’270 Patent is directed to light emitting elements, so the light-emitting layer is
 11 indisputably important. As this Court has recognized, the light-emitting layer can be composed of
 12 sublayers having differing compositions and functions. *See* Ex. 3 (’270 Patent) at 4:45-53; *see*
 13 *also* Dkt. No. 97 at 13 (“the light-emitting layer may have multiple sub-layers”). A reasonable
 14 jury thus can similarly find that the [REDACTED] is not so especially important
 15 that it cannot be properly considered part of the “first gallium nitride based semiconductor.” *See*
 16 *also* Ferguson Decl. ¶ 96 (explaining that “the [REDACTED] is not an ‘intervening layer’”); Ex. 2
 17 (Ferguson Dep.) at 174:17-177:26 (testifying that “[REDACTED]”
 18 that is part of the “first gallium nitride-based semiconductor”). RayVio also points to literature
 19 referring to a “buffer layer” along with other layers, but this is wholly consistent with the [REDACTED]
 20 [REDACTED] being a sublayer of the “first gallium nitride based semiconductor” in the context of the ’270
 21 Patent. The ’270 Patent also refers separately to “AlGaN layer 20” and “GaN layer 22” that are
 22 sublayers of the light-emitting layer having a “superlattice structure.” Ex. 3 (’270 Patent) at 4:45-
 23 53; *see also* Dkt. No. 97 at 13; Ferguson Decl. ¶¶ 87-91.

24 As Dr. Ferguson has explained, whether a particular layer is properly considered a separate
 25 and distinct layer or a sublayer of a larger structure depends on context:

26
 27 ⁹ The jury will also be able to consider that another layer in RayVio’s products, an [REDACTED]
 28 that RayVio does not contest can properly be considered part of the “first gallium nitride based
 semiconductor,” is [REDACTED]). *See* Mtn. at 14.

1 “[L]ayer” and “sub-layer” ... are common terms used in the LED manufacturing
 2 field to refer to structures within an LED device. Depending on context, a particular
 3 region may be either a “layer” or a “sublayer.” For example, as the Claim
 4 Construction Order found, the patent refers to a “gallium nitride based
 5 semiconductor layer” that could be a superlattice structure comprised of a repetition
 6 of AlGaIn and GaN layers. When viewed by itself, an AlGaIn region within the
 superlattice may be considered a “layer,” but when viewed in the context of a
 superlattice structure, it is a “sublayer” of the superlattice. Similarly, epitaxial
 layers within an LED formed by [REDACTED] may be referred to as “layers,” but
 nevertheless also be considered “sub-layers” within in the context of the larger LED
 device, or functional regions (e.g., the active layer) of the LED device.

7 Ferguson Decl. ¶ 28. The question of whether an [REDACTED] is part of the “first gallium
 8 nitride based semiconductor” in the context of RayVio’s products is a factual question for the jury,
 9 and cannot be resolved on summary judgment. *See In re Gabapentin Patent Litig.*, 503 F.3d at
 10 1259.

11 c. RayVio’s factual dispute about whether the “first gallium nitride
 12 based semiconductor” can contain [REDACTED] is unsound

13 Finally, RayVio argues that the [REDACTED] cannot be part of the “first gallium nitride
 14 based semiconductor” “because it [REDACTED]” (Mtn. at 15), even though all [REDACTED] other
 15 sublayers of the “first gallium nitride based semiconductor” NS has identified in RayVio’s
 16 products [REDACTED]. *See* Ferguson Decl. ¶¶ 81, 92-94. Even under RayVio’s view that the
 17 “first gallium nitride based semiconductor” should be “composed of at least gallium and nitrogen,”
 18 the structure NS has identified infringes because it is [REDACTED], as well
 19 as [REDACTED].¹⁰ Mtn. at 15.

20 RayVio’s non-infringement argument is thus premised on imposing an unstated, more
 21 stringent requirement that *every* component of a gallium nitride based semiconductor must have
 22 [REDACTED]. RayVio’s argument is directly contradicted by the ’270 Patent specification, which
 23 discloses a gallium nitride based semiconductor having AlN sublayers. *See* Ferguson Decl. ¶ 92.
 24 This alone precludes summary judgment.

25
 26 ¹⁰ As stated in the text *infra*, the parties did not seek to construe the term “first gallium nitride
 27 based semiconductor” in claim 1. The parties submitted competing proposals for terms in claim
 28 9, and RayVio refused to agree to NS’s proposed construction: “the first layer composed of at
 least gallium and nitrogen.” Ex. D at 20. NS then accepted RayVio’s construction to resolve the
 dispute. *See* Dkt. No. 97 at 21. RayVio now improperly urges the Court to apply the construction
 NS had proposed for claim 9 that RayVio refused to accept and the Court never adopted.

1 More specifically, Figure 3 of the '270 Patent illustrates "a gallium nitride based
2 semiconductor." Ex. 3 ('270 Patent) at 4:45-46. It shows a gallium nitride based semiconductor
3 that includes a "superlattice structure," which serves as a "light emitting layer." *Id.* at 4:45-9; *see*
4 *also* Ex. 4 (Piner Dep.) at 13:7-9 (confirming the superlattice structure in Figure 3 can be a light-
5 emitting layer).¹¹ The specification states that, instead of the AlGa_N/Ga_N layers shown in Figure
6 3, the superlattice structure "may be preferably formed from AlGa_N/Al_N/Ga_N." Ex. 3 ('270
7 Patent) at 22-25 (emphasis added). In other words, in this preferred embodiment, the "gallium
8 nitride based semiconductor" includes Al_N sublayers, which directly contradicts RayVio's non-
9 infringement argument.¹² Ferguson Decl. ¶ 92 ("[T]he '270 patent discloses an Al_N sublayer as
10 part of a superlattice structure that maps to the claimed 'gallium nitride based semiconductor' in
11 claims 5-6 and 'gallium nitride based semiconductor layer' in claims 12-13"). Thus, RayVio's
12 argument cannot support summary judgment on this record. Indeed, a jury reasonably could
13 conclude that RayVio's argument is nothing more than makeweight because it conflicts with the
14 '270 Patent's teachings.

15 Other patents in the field also contradict RayVio's position by confirming that "gallium
16 nitride based" semiconductor devices can include [REDACTED], such as [REDACTED]. For
17 example, Dr. Piner agreed that U.S. Pub. Pat. App. 2018/0261720, assigned to the well-known
18 semiconductor equipment manufacturer Applied Materials, "use[s] the term 'gallium-nitride based
19 devices' to include aluminum nitride buffer layers." Ex. 4 (Piner Dep.) at 19:15-21:21; Ex. 7 (U.S.
20 Pub. Pat. App. 2018/0261720) ¶¶ 8, 10, 20. This is consistent with the general usage of "gallium
21 nitride based" to refer to semiconductors based on gallium nitride that may include [REDACTED]
22 [REDACTED] and other types of layers. Dr. Piner agreed that U.S. Patent No. 7,190,001, assigned to a
23 [REDACTED]

24 ¹¹ *See also* cls. 5, 7, 12, and 13; Dkt. No. 97 at 4 (recognizing that these claims relate to the Figure
25 3 embodiment), 13 (interpreting "light emitting layer" based on the Figure 3 embodiment and these
26 claims); Ex. 4 (Piner Dep.) 14:20-15:14 (Dr. Piner agrees that the Figure 3 embodiment
corresponds to claims 5 and 12, which specify that the light-emitting layer is a gallium nitride
based semiconductor).

27 ¹² In the '270 Patent, the Al_N sublayers form one-third of the semiconductor in this embodiment
28 because the repeating structure is AlGa_N/Al_N/Ga_N. By comparison, under NS's application of
the claims to RayVio's products [REDACTED] of the "first gallium nitride based
semiconductor" is [REDACTED]. Ferguson Decl. ¶ 81.

1 light-emitting diode (LED) manufacturer “claims an aluminum nitride discontinuous uneven layer
2 as part of a gallium nitride-based semiconductor light-emitting layer device.” Ex. 4 (Piner Dep.)
3 at 22:2-23:14); *see also* Ex. 8 (U.S. Patent No. 7,190,001) at 2:36-41; cl. 5.

4 Publications in respected academic journals likewise refer to “GaN-based” semiconductor
5 structures that include [REDACTED]. *See* Ex. 9 (Piner Ex. 6) at Abstract, 1-3 (repeatedly referring
6 to a “GaN-based vertical-cavity surface emitting laser with ... hybrid mirrors, consisting of the 25
7 pairs *AlN*/GaN dielectric Bragg reflector and the 8 pairs Ta₂O₅ [tantalum pentoxide]/SiO₂ [silicon
8 dioxide]”) (emphasis added); Ex. 10 (Piner Ex. 7) at 3-6 (titled “GaN-based ultraviolet light-
9 emitting diodes with *AlN*/GaN/InGaN multiple quantum wells”) (emphasis added); Ex. 4 (Piner
10 Dep.) at 24:2-30:16 (acknowledging these statements). These references reinforce Dr. Ferguson’s
11 testimony that “a gallium nitride based semiconductor can have [REDACTED] in it.”¹³ Ex. 2
12 (Ferguson Dep.) at 69:25-70:16. Therefore, there is at minimum a factual dispute as to whether
13 the “first gallium nitride based semiconductor” can include an [REDACTED] *Cave*, 2016 WL
14 4658979, at *4 (“ordinary and customary meaning” of the claim term applies) (quoting *Apple*,
15 2014 WL 660857, at *3).

16 In sum, summary judgment should be denied because, “at the very least, a reasonable jury
17 could find” NS’s identification of the “first gallium nitride based semiconductor” persuasive.
18 *Glaxo Group Ltd. v. TorPharm, Inc.*, 153 F.3d 1366, 1371 (Fed. Cir. 1998) (vacating summary
19 judgment of non-infringement).

20 **3. The disputed facts regarding whether RayVio’s products contain “a**
21 **first gallium nitride based semiconductor layer formed on the**
22 **substrate” (claim 8)**

23 The only relevant difference between claim 1 and claim 8 is that claim 8 includes the word
24 “layer” immediately following the phrase “first gallium nitride based semiconductor.” The
25 addition of the word “layer” does not alter the analysis set forth in the previous section of this
26 brief. *See supra* Section III.B.2. RayVio draws no distinction between the terms in claim 1 and 8
27 in its motion. *See Mtn.* at 7-17.

28 ¹³ Dr. Piner admitted that he did not look for patents or publications that show how the term
“gallium nitride-based” is used in the field. *See* Ex. 4 (Piner Dep.) at 19:8-11.

The parties did not seek construction of the phrase “first gallium nitride based semiconductor layer,” so this phrase also has its “ordinary and customary meaning.” *Cave*, 2016 WL 4658979, at *4 (quoting *Apple*, 2014WL 660857, at *3). The parties, however, did seek construction of multiple claim terms including the word “layer,” and all those constructions demonstrate that the plain meaning of “layer” includes sublayers. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (“[C]laim terms are normally used consistently throughout the patent.”); *see also id.* at 1321 (“Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.”). As set forth below, the Court’s construction of every term that includes the word “layer” permits sublayers to be part of the layer:

“a light emitting layer” (claims 1, 5, 8, and 12): “a thickness of material having a varied compositional ratio, *which may be made up of sub-layers*, that generates light”;

“a base layer” (claims 5 and 12): “a thickness of material, *which may be made up of sub-layers*, that serves as a base for forming other layers above it”; and

“a lattice mismatch layer” (claim 5): “a thickness of material, *which may be made up of sub-layers*, that has a different atomic spacing and is composed of a different type of material than the base layer and the gallium nitride based semiconductor.”

Dkt. No. 97 at 27-28 (emphasis added).

Consequently, just as the “first gallium nitride based semiconductor” of claim 1 can be comprised of the [REDACTED] NS identified, the “first gallium nitride based semiconductor layer” of claim 8 likewise can include those [REDACTED]. Indeed, the Court’s constructions of other phrases that include the word “layer” expressly provide that it “may be made up of sub-layers.” *Id.*

4. The disputed facts regarding whether RayVio “form[s], on a substrate, a base layer” (claim 5) and whether RayVio’s products have “a base layer formed on the substrate” (claim 12)

The Court construed “a base layer” as “a thickness of material, which may be made up of sub-layers, that serves as a base for forming other layers above it.” Dkt. No. 97 at 28. Accordingly, just as the “first gallium nitride semiconductor layer” can be composed of the [REDACTED] NS identified, so too can the “base layer.” RayVio does not contest that the “base layer” NS identified is a “thickness of material” or that it “serves as a base for forming other layer above it.” RayVio

1 does not even attempt to argue that the “base layer” NS identified somehow fails to satisfy the
 2 Court’s construction. In fact, RayVio never even mentions the Court’s construction. *See* Mtn. at
 3 17-23.

4 Instead, RayVio regurgitates all but one of the same arguments it raised against NS’s
 5 identification of the “first gallium nitride based semiconductor”/“first gallium nitride based
 6 semiconductor layer.”¹⁴ In the interest of brevity, NS will refrain from repeating its evidence and
 7 arguments recited above. *See supra* Section III.B.2 and III.B.3. They demonstrate that RayVio’s
 8 motion must be denied because the record is, at best, replete with genuine factual disputes that
 9 cannot be resolved against NS on summary judgment. *See Anderson*, 477 U.S. at 249; *Vivid*, 200
 10 F.3d at 807.

11 **C. RayVio’s Request For Summary Judgment Premised On A Subsequently**
 12 **Filed Motion Is Improper**

13 RayVio seeks summary judgment based on a separate, twenty-five page motion RayVio
 14 did not file until six days after the summary judgment deadline (Dkt. No. 172). The Court should
 15 deny RayVio’s request because it violates this Court’s orders and because RayVio failed to explain
 16 the substance of its position.

17 Summary judgment motions were due on November 27, 2018. Dkt. No. 148 at 1. RayVio
 18 did not file the additional brief that it contends supports summary judgment until six days *after* the
 19 deadline. *See* Dkt. No. 172. RayVio did not seek, or obtain, permission to file late. RayVio’s late
 20 filing thus violates this Court’s scheduling order. RayVio’s late filing also is inexcusable. RayVio
 21 contends, “NS present[ed] entirely new infringement theories in the expert report of its
 22 infringement expert, Dr. Ferguson.” Mtn. at 23. RayVio’s contention is not true. Regardless,
 23 RayVio’s contention cannot justify its late filing because NS served Dr. Ferguson’s infringement
 24 report on August 15, 2018. *See* Yeh Decl. ¶ 7. RayVio had *more than three months* before the
 25 November 27 deadline to seek summary judgment on the basis that Dr. Ferguson’s report
 26 purportedly contains new infringement theories. RayVio failed to do so.

27 ¹⁴ The only argument RayVio dropped is its contention that a “gallium nitride based
 28 semiconductor” cannot include an [REDACTED] because [REDACTED] lacks gallium. RayVio dropped this
 argument because the claimed “base layer” is not limited to a gallium nitride based semiconductor.

1 This Court's Standing Order permits "only one Motion for Summary Judgment" absent
 2 leave of Court. Standing Order for Civil Cases at 8. RayVio seeks summary judgment based on
 3 its late-filed motion, which thus constitutes a second summary judgment motion in violation of the
 4 Standing Order. If a party could simply entitle a second summary judgment motion differently,
 5 *e.g.*, as a motion to strike per RayVio here, that would render this Court's Standing Order
 6 meaningless. RayVio improperly gave itself a *second* motion with another 25 pages of summary
 7 judgment briefing, circumventing the 25-page limit for a single motion. *See* LR 7-2(b). RayVio
 8 also did not need more than 25 pages. Pages 17 to 23 of RayVio's summary judgment brief merely
 9 repeat pages 7 to 14, with the exact same quotations and figures.

10 RayVio's failure to explain its basis for seeking summary judgment based on NS's
 11 purported change in infringement theories in its summary judgment motion is also improper. "[A]
 12 party seeking summary judgment always bears the initial responsibility of informing the district
 13 court of the basis for its motion, and identifying those portions of 'the pleadings, depositions,
 14 answers to interrogatories, and admissions on file, together with the affidavits, if any,' which it
 15 believes demonstrate the absence of a genuine issue of material fact." *Celotex Corp. v. Catrett*,
 16 477 U.S. 317, 323 (1986). RayVio, however, does not even attempt to explain what the purported
 17 "new infringement theories" are in its summary judgment motion. Mtn. at 23-24. In an abundance
 18 of caution, NS will respond to the substance of RayVio's "motion to strike" when its response to
 19 that late-filed motion is due, but RayVio's late-filed second summary judgment motion is properly
 20 denied without considering its substance.

21 **D. Summary Judgment On The "Spatial Fluctuation" Limitation Of Claims 1, 5,**
 22 **and 12 Should Be Denied Because NS Has Adduced Substantial Evidence Of**
Infringement

23 RayVio argues that it is entitled to summary judgment of non-infringement because NS
 24 has not presented sufficient evidence of RayVio's infringement of the "spatial fluctuation ... in
 25 the band gap" limitation recited in claims 1, 5, and 12 under this Court's construction. In support
 26 of this argument, RayVio alleges that the only evidence NS has offered on this issue are two
 27 sentences in one paragraph of Dr. Ferguson's report, and contends that those two sentences are
 28 insufficient evidence to establish infringement. *See* Mtn. at 24-25. RayVio is wrong. As detailed

below, NS has adduced a mountain of evidence from which the jury can conclude that RayVio's products meet the "spatial fluctuation" limitation.

Contrary to RayVio's contention, Dr. Ferguson addressed at length the issue of "spatial fluctuation in the band gap," including this Court's construction of the term and his explanation of how RayVio infringes this claim limitation. His discussion of this issue was not confined to the two sentences RayVio identifies in paragraph 109 of his report. Rather, in multiple paragraphs including paragraphs 89, 106-113, 124, 134, 142, 149, and 157, he addressed the Court's construction and provided a fulsome explanation of how he arrived at his conclusion that RayVio infringes this limitation, identifying record evidence to support his conclusion.¹⁵ See Ex. 6 (Ferguson Rpt.) ¶¶ 89, 106-113, 124, 134, 142, 149, and 157; *see also* Ferguson Decl. ¶¶ 79, 103-110, 121, 133, 141, 148, and 156 (which correspond to the identified paragraphs in Dr. Ferguson's report).

More specifically, Dr. Ferguson opined that, in RayVio's products, the [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] Ex. 6 (Ferguson Rpt.) ¶ 109; *see also* Ferguson Decl. ¶ 106 (corresponding paragraph). In other words, Dr. Ferguson explained that the "continuous widening and narrowing of the band gap" results from [REDACTED] [REDACTED] *Id.* Dr. Ferguson then identified many pieces of evidence that support his opinion that [REDACTED]

[REDACTED] and that [REDACTED] [REDACTED] Ex. 6 (Ferguson Rpt.) ¶ 134; *see also id.* ¶¶ 142 (same), 149 (same), 157 (same); Ferguson Decl. ¶¶ 133, 141, 148, 156 (corresponding paragraphs). This evidence includes APT and TEM analyses,¹⁶ RayVio internal documents, a patent application that discloses RayVio's core

¹⁵ To the extent RayVio ignored Dr. Ferguson's other statements because RayVio believes that Dr. Ferguson had to repeat the Court's construction every time he explained that the "spatial fluctuation" limitation is met, that makes no sense because Dr. Ferguson acknowledged the Court's constructions and stated he was applying them. See Ex. 6 (Ferguson Rpt.) ¶ 89.

¹⁶ APT is an acronym for atom probe tomography, as stated above, and TEM is an acronym for transmission electron microscopy.

1 technology, and the Ph.D. thesis of RayVio’s founder. *Id.*; *see also id.* at ¶¶ 79, 103-110, 121. Dr.
 2 Ferguson discussed the APT and TEM results in his report and explained how the patent
 3 application and thesis match up to the ’270 Patent. *See* Ex. 6 (Ferguson Rpt.) ¶¶ 106-08, 114-19,
 4 124; *see also* Ferguson Decl. ¶¶ 103-105, 111-116, 121 (corresponding paragraphs); *see also*
 5 *generally* Isheim Declaration.

6 To the extent RayVio is complaining that Dr. Ferguson does not show some direct
 7 measurement of the band gap to support his non-infringement opinion, such a complaint is
 8 misplaced because he was entitled to rely on indirect evidence to show infringement.¹⁷ “It is
 9 hornbook law that a patentee may prove an issue of fact by either direct or circumstantial evidence.
 10 ... Indeed, circumstantial evidence is not only sufficient, but may also be more certain, satisfying
 11 and persuasive than direct evidence.” *Frolow*, 710 F.3d at 1310-11 (reversing summary judgment
 12 of non-infringement based on circumstantial evidence of infringement); *see also In re Gabapentin*
 13 *Patent Lit.*, 503 F.3d at 1262 (reversing a grant of summary judgment of non-infringement and
 14 finding that expert opinions based on results of comparative pH testing, as opposed to direct pH
 15 measurements, were sufficient to preclude summary judgment of non-infringement).

16 In addition to considering Dr. Ferguson’s testimony that RayVio infringes the “spatial
 17 fluctuation” claim limitation and his explanation based on analytical results and public documents,
 18 the jury will be able to consider RayVio’s own internal documents that demonstrate RayVio’s
 19 infringement. RayVio’s own documents confirm that RayVio’s fundamental technical approach
 20 is to [REDACTED]. For
 21 example, RayVio touts that it [REDACTED]
 22 [REDACTED] Ferguson Decl. ¶¶ 104, 133, 141, 148, 156 (citing
 23 RV-SC-000610 at 7).¹⁸ Just as the ’270 Patent teaches, RayVio uses [REDACTED], i.e., [REDACTED]
 24

25 ¹⁷ Such a complaint also makes no sense as a technical matter because spatial variation in the band
 26 gap is an electronic consequence of the variation in the compositional ratio, which has been directly
 analyzed.

27 ¹⁸ RayVio designated documents with the prefix “RV-SC” as “Highly Confidential – Outside
 28 Attorneys’ Eyes Only – Trade Secrets/Source Code,” so they cannot be filed electronically under
 the Protective Order. *See* Dkt. No. 46. Nitride can provide the Court with hard copies upon
 request.

1 [REDACTED] to [REDACTED]
 2 [REDACTED] Ferguson Decl. ¶¶ 104, 133, 141, 148, 156 (citing RV-SC-
 3 000596); *cf.* Ex. 3 ('270 Patent) at 1:27-39 (discussing how “spatial fluctuation in the band gap”
 4 improves “light emission efficiency” by causing electrons and holes to recombine “where the band
 5 gap is narrow,” *i.e.*, in gallium-rich regions, rather than at defects). As Dr. Ferguson explained in
 6 discussing another RayVio slide deck at his deposition, RayVio admits [REDACTED]
 7 [REDACTED] Ex. 2 (Ferguson Dep.) at 219:13-
 8 221:9 (discussing RV-SC-001194, at slide 3); *see also* Ferguson Decl. ¶¶ 123-127 (discussing
 9 several internal RayVio documents).

10 NS thus has adduced more than sufficient evidence for a reasonable jury to conclude by a
 11 preponderance of the evidence that RayVio infringes the “spatial fluctuation” limitation. Summary
 12 judgment therefore must be denied. *See Bio Tech. General Corp. v. Duramed Pharms., Inc.*, 325
 13 F.3d 1356, 1361 (Fed. Cir. 2003) (reversing summary judgment of non-infringement even though
 14 the patentee’s proffered evidence was, unlike NS’s evidence here, “neither extensive nor especially
 15 detailed” because it was nevertheless “sufficient to satisfy [the patentee’s] burden at the summary
 16 judgment stage to offer evidence ‘sufficient to establish the existence of an element essential to
 17 that party’s case, and on which that party will bear the burden of proof at trial’”). RayVio’s
 18 summary judgment brief ignores all this evidence, but RayVio cannot obtain summary judgment
 19 of non-infringement by ignoring the NS’s evidence of infringement. *See Ethicon*, 796 F.3d at
 20 1326-27; *Rockwell*, 147 F.3d at 1366.

21 **IV. CONCLUSION**

22 For the foregoing reasons, this Court should deny RayVio’s summary judgment motion in
 23 its entirety.

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Respectfully submitted,

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